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**Golf putting green repairer (Hand-held)**

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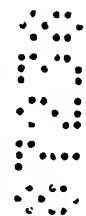
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# **Golf Putting Green Repairer (Hand Held)**

## **ABSTRACT**

When a golf ball lands onto the putting green an indentation (pitch mark) is formed and the grass in the area may be killed by the impact. A neglected or poorly repaired mark may leave a scar on the putting surface for several weeks and this can affect ball roll. Repairing by simply lifting the depression leaves a dead patch and an opportunity for weeds and disease to propagate. This invention provides a hand held device for repairing pitch marks in a putting green and complement a large mechanical device (Australian Patent 733274) being used by a golf course groundskeeper.



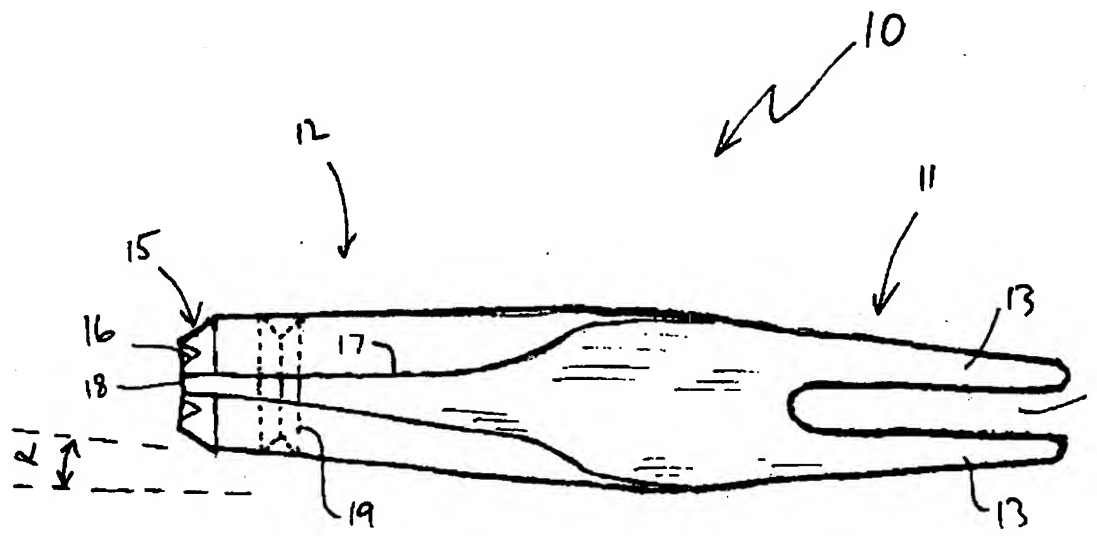


FIG. 1

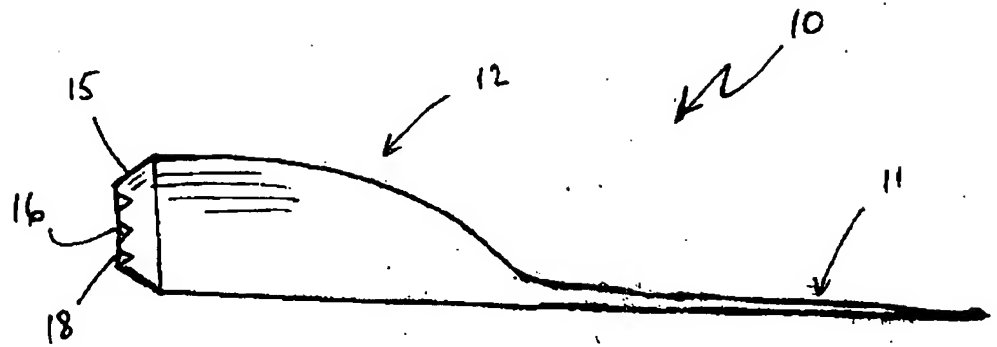


FIG. 2

**AUSTRALIA**  
**Patents Act 1900**  
**STANDARD SPECIFICATION**  
**Golf Putting Green Repairer (Hand Held)**

The invention is described in the following statement:

5 The present invention relates to a device for the repair of golf putting greens and especially to a device for repairing pitch marks, ie. indentations on the putting green caused by the impact of a golf ball.

10 When a golf ball pitches onto the putting green, an indentation is formed and the grass in the area may be killed by the impact. A neglected or poorly repaired pitch mark may form a scar on the putting surface for about two weeks, creating an undulation which can affect the ball roll.

15 Treating pitch marks by lifting the depression simply levels the surface, leaving the dead patch. This dead patch remains a likely spot for weeds, such as winter grass, and disease to get a foothold.

The present invention provides a hand-held device for repairing pitch marks in a putting green or other grassed sports surface.

20 A large, mechanical device for such a purpose is disclosed in Australian patent application No. 52729/98. Such a device is intended to be used by a golf course groundkeeper.

**OBJECT OF THE INVENTION**

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It is an object of the present invention to provide a simple hand-held device that a golfer, caddy or other person might keep in his or her pocket or golf bag to enable quick and easy retrieval for immediate repair of pitch marks during a game of golf.

## DISCLOSURE OF THE INVENTION

There is disclosed herein a hand-held device for repairing pitch marks on a putting green, the device having:

- 5        a hollow coring tine being substantially circular in transverse cross-section and having a cutting edge at a leading end thereof, and  
          a blade or blades extending from the other end of the coring tine, wherein the coring tine serves as a handle for the blade or blades.

- 10      Preferably the coring tine is tapered inwardly toward the leading end.

Preferably the coring tine includes a longitudinal slot that narrows toward the leading end.

- 15      Preferably the cutting edge includes serrations.

Preferably the coring tine includes a substantially annular external highly tapered portion adjacent the leading end.

- 20      Preferably the device includes two substantially coextensive, longitudinal blades separated by a gap.

Preferably the coring tine includes an internal protrusion to assist retention of a plug of grass and turf.

- 25      Preferably the protrusion is in the form of a substantially annular venturi.

## BRIEF DESCRIPTION OF THE DRAWINGS

- 30      A preferred form of the present invention will now be described by way of example with reference to the accompanying drawings, wherein:

Figure 1 is a schematic plan view of the hand-held device for repairing pitch marks on a putting green; and

Figure 2 is a schematic elevational view of the device of Figure 1.

## 5 DESCRIPTION OF THE PREFERRED EMBODIMENT

In the accompanying drawings there is schematically depicted a hand-held device 10 for repairing pitch marks on a putting green. The device 10 is typically fabricated from metal such as steel, stainless steel or other strong, bend-resistant material.

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The device 10 includes a blade portion 11 extending from a coring tine 12.

The blade portion 11 includes a pair of substantially coextensive blades 13 separated by a gap 14.

15

The coring tine 12 includes a leading edge having serrations 16 and a highly tapered portion 15. The serrations 16 and highly tapered portion 15 meet at a sharp, annular tip 18.

20

The coring tine 12 also includes a longitudinal slot 17 that tapers inwardly toward the leading end of the device. Where the device 10 is fabricated from a length of tubing or pipe for example, the slot 17 might have commenced as a parallel formation that is subsequently closed in toward the leading end upon the formation of a slight taper as indicated by the letter  $\alpha$  in Figure 1.

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An internal protrusion 19 can be provided just back from the tip 18 of the coring tine. The protrusion 19 might take the form of a short venturi and could be provided as a separate insert to the device, or could alternatively be provided as an indentation formed on the outside surface of the coring tine.

30

In use, the device 10 is grasped and the coring tine 12 is pushed downwardly into the putting green over a pitch mark. The device can be oscillated in a rotary manner substantially about its longitudinal axis such that the sharp tip 18 and serrations 16 effectively cut a damaged plug of grass and earth from the putting green as the coring  
 5 tine 12 is pushed downwardly. Once the device has reached a desired depth, it can be twisted and withdrawn so as to withdraw the plug of grass and earth from the green. The tapered nature of the external surface of the coring tine ensures clean removal of the plug from the green without lifting the surrounding material.

- 10 The external surface of the coring tine 12 can now be used as a handle to push the blade portion 11 into the green around the hole left by the coring tine. The surrounding grass and earth can be pushed into the hole by gentle manipulation. This might be repeated several times around the hole. This brings viable living material into the void and aerates the surrounding area. The grass stolons might be cut by this  
 15 action, thus creating more growing points. The area can then be tapped by foot or with the bottom edge of a golf putter for example, to level the area.

- The plug of damaged grass and soil inside the coring tine can be removed by shaking the device, or by pushing it out with one's finger or by use of a small implement such  
 20 as a golf tee. The material can be deposited in a special bin or receptacle at the golf course for use as garden mulch, for example.

- It should be appreciated that modifications and alterations obvious to those skilled in the art are not to be considered as beyond the scope of the present invention. For  
 25 example, the device might be provided with a depth marker for example on the outer surface of the coring tine to mark the depth below which the device need be pushed no further to effectively remove the damaged core.

**THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:**

- 1. A hand-held device for repairing ball-pitch marks on golf putting greens including means for penetrating a green surface at locations radially surrounding said mark to be removed means for removing the pitch mark material from said green and means for moving grass and or earth radially into a void caused by the said hand-held penetrating device.**
- 2. A pitch mark repairer device according to claim 1 wherein said core-removing means includes a coring tine being substantially circular in transverse cross-section. and having a cutting edge at a leading end thereof, and a blade or blades from the other then of the tine wherein the tine serves as a handle for the blade or blades .**
- 3. A pitch mark repairer device according to claim 2 wherein the coring tine is tapered inwardly toward the leading end.**
- 4. A pitch mark repairer device according to claim 3 wherein includes an internal protrusion.**
- 5. A pitch mark repairer device according to claim 4 wherein the coring tine, tapered inwardly toward the leading end includes an annular venturi protrusion.**
- 6. A pitch mark repairer device according to claim 5 wherein the coring tine includes a longitudinal slot that narrows toward the leading end.**
- 7. A pitch mark repairer device according to claim 6 wherein the cutting edge includes serrations.**
- 8. A pitch mark repairer device according to claim 7 wherein annular leading end is highly tapered**
- 9. A pitch mark repairer device according to claim 8 with two substantially coextensive longitudinal blades separated by a gap.**



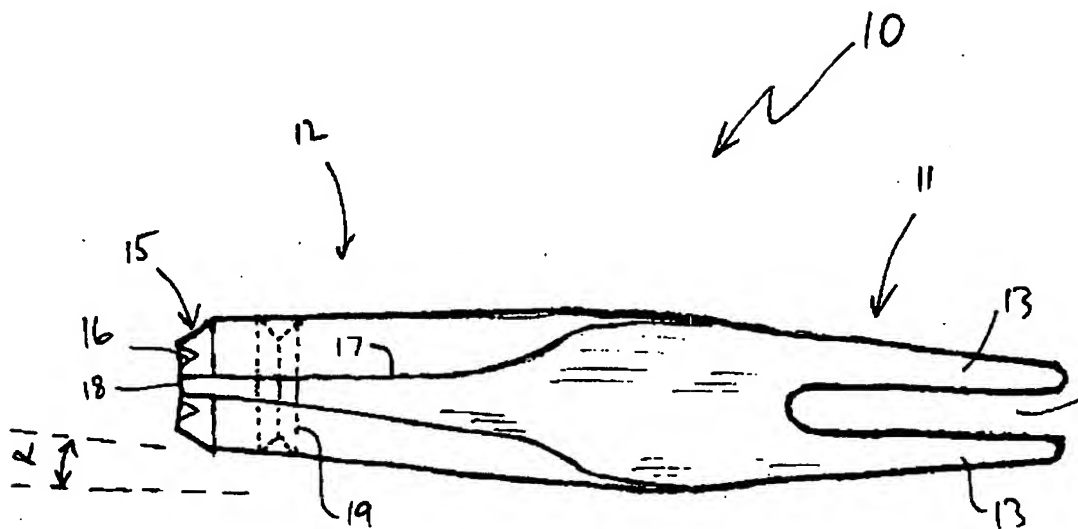


FIG. 1

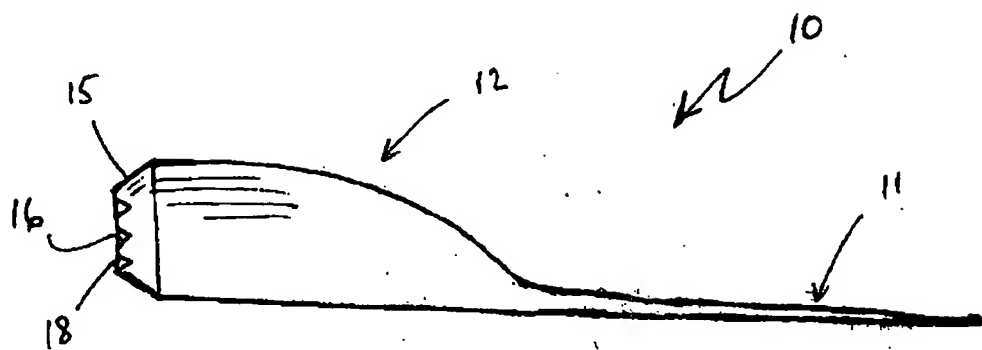


FIG. 2